

1 WE CLAIM:

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3 1. A pleated shade assembly capable of
4 height adjustment without use of pull cords,
5 comprising, in combination:

6 a) an upper elongated support,

7 b) a lower elongated member that is
8 manually adjustable up and down,

9 c) primary lines extending through shade
10 pleats to suspend said bottom elongated member,

11 d) primary rotors at said top elongated
12 support to entrain said primary lines,

13 e) at least one secondary line having
14 operative connection to said primary lines,

15 f) and means acting on said secondary line
16 or lines for counterbalancing suspension force exerted
17 on said primary lines at different shade height
18 adjusted levels,

19 g) said means including dual rotary members
20 exerting tensioning force on said secondary line or
21 lines,

22 h) said means including a spring coupled to
23 said dual rotary members and exerting force tending to
24 entrain said secondary line or lines about said dual

1 rotary members, for storage on at least one of the
2 members.

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5 2. The combination of claim 1 wherein said
6 spring has S-shaped configuration.

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9 3. The combination of claim 1 wherein said
10 spring winds in a clockwise direction about one of said
11 members, and in a counterclockwise direction about the
12 other of said members.

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15 4. The combination of claim 1 wherein said
16 at least one member has coaxial first and second
17 surface portions, the spring winding about the first
18 portion, and the secondary line winding about the
19 second portion.

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22 5. The combination of claim 4 wherein each
23 of the members has coaxial first and second surface
24 portions, the spring winding about the first portion
25 and the secondary line or lines winding about the
26 second portion.

1 6. The combination of claim 5 including a
2 housing, and posts in the housing supporting the
3 members for free rotation about axes defined by the
4 posts.

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7 7. The combination of claim 6 including
8 annular caps associated with the posts and members, for
9 axially positioning the members in the housing.

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12 8. The combination of claim 6 wherein the
13 housing is defined by a portion of said upper elongated
14 support which is a shade head rail.

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17 9. The assembly of claim 1 wherein said
18 primary rotors include at least one second rotor over
19 which said primary lines are entrained, and said
20 primary rotors include a third rotor in the form of a
21 pulley over which one of said primary lines is
22 entrained, and a fourth rotor in the form of a pulley
23 over which another of said primary lines is entrained.

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1 10. The assembly of claim 9 wherein said
2 upper elongated support protectively contains all of
3 said primary rotors and said tensioning means.

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6 11. The assembly of claim 1 wherein said
7 primary lines have first terminals operatively
8 connected to said lower elongated member, below said
9 upper support.

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12 12. The assembly of claim 1 including a
13 guide rotor over which a section of said secondary line
14 travels, said section located between said connection
15 and said means, said guide rotor movable axially
16 generally normal to said path of travel.

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1 13. A collapsible shade assembly capable of
2 height adjustment without use of pull cords,
3 comprising, in combination:
4 a) an upper elongated support,
5 b) a lower elongated member that is
6 manually adjustable up and down,
7 c) primary lines extending adjacent the
8 shade to suspend said bottom elongated member,
9 d) primary rotors at said top elongated
10 support to entrain said primary lines,
11 e) at least one secondary line having
12 operative connection to said primary lines,
13 f) and means acting on said secondary line
14 or lines for counterbalancing suspension force exerted
15 on said primary lines at different shade height
16 adjusted levels, said means including a dual rotary
17 member entraining said secondary line, and a spring
18 operatively connected to said dual rotary members.

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21 14. The combination of claim 13 wherein said
22 spring has S-shaped configuration.

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